What Counts as Disease?

The Gold Standard of Disease versus the Fiat Standard of Diagnosis

THOMAS SZASZ

Illness and healing are as old as civilization. For millennia, the shaman or priest aided persons suffering from all manner of human adversities, only some of which we now regard as diseases. Distinguishing between sin and sickness, between faith healing and medical treatment was a slow historical process, still incomplete in the minds and lives of millions. The scientific-materialist approach to medical healing—a western European idea—is less than two hundred years old.

Traditionally, the physician was a private entrepreneur. In the United States, only in the twentieth century did the federal and state governments begin to regulate and restrict the sale of medicines and the practice of medicine. After the end of World War II (earlier in the Soviet Union), the distribution of medical services throughout the developed world was transformed from a capitalist to a socialist system: the source of the physician's income shifted from the patient to the government or a government-regulated insurance system. At the same time, more and more personal habits and problems—from smoking to obesity to the management of unruly children—became defined as diseases, and more and more drugs were removed from the free market and made available only by prescription and only to persons diagnosed as ill. In a few centuries, Western societies were transformed from theocracies to democracies and then to pharmacracies (Szasz [2001] 2003).

Thomas Szasz is a professor of psychiatry emeritus at the State University of New York, Upstate Medical University, Syracuse, New York.

The Independent Review, v. X, n. 3, Winter 2005, ISSN 1086-1653, Copyright © 2005, pp. 325–336.

What should and what should not count as a disease? This question is a troublesome one for all of medicine, especially for psychiatry. Everyone—doctors and patients, drug companies and heath insurance systems, politicians and people—has a stake in how we demarcate disease from nondisease. None of us can escape the obligation to grapple with this issue and to decide how and where we ought to draw the line. For physicians and the medical profession, the question requires two different answers—one to satisfy the needs of medical science, another to satisfy the needs of medical practice and the persons it serves.

Medical science, a part of natural science, is concerned with the empirical investigation of a part of the material world—the human body—by means of precisely defined and rigorously applied concepts and techniques. Medical practice, though based on science and the use of scientific technology, is not a science; it is a type of human service, the content and delivery of which are shaped by economic, ideological, religious, and political interests. In the delivery of medical care, insistence on scientific precision and rigor is condemned as rigidity and lack of compassion.

The conflict between the need for precision and rigor in practicing science and the need for flexibility and compassion in providing medical care is reflected in our current nosology—a mixture of precisely identified natural phenomena and imprecisely defined economic, ideological, political, and social judgments and occurrences. As a result, this classification system is an intellectual embarrassment and an invitation to political-economic mischief. Extricating ourselves from the dilemmas of contemporary health-care policy and politics requires that we acknowledge the need for two (or more) systems of defining and classifying diseases.

Science is synonymous with materialism, with the study of facts, with how things are. It is axiomatic that there can be no scientific investigation or scientific theory of nonmaterial "entities" and moral concepts, such as angel and devil, spirit and mind, virtue and vice. To say that is not to say that those things "do not exist." They "exist," but they are not a part of the material world. Their study entails inquiry into and reasoning about not facts, but beliefs (explanations), experiences (how things feel), values (good and bad), and social policies (what actions in what circumstances ought to be considered licit and illicit).

All this is commonplace. Nevertheless, prominent medical scientists and prestigious publications regularly ignore, overlook, and obscure that we use and need to use the *concept of disease* both as a value-neutral scientific term to describe and explain aspects of the material world and as a value-laden ethical term to identify, excuse, condemn, and justify (nonmaterial) human aspirations, laws, and customs; and that we ought to distinguish clearly and honestly between these two different meanings and uses of the term.

A Very Brief History of the Idea of Disease

For the greater part of two thousand years, from the days of Hippocrates (c. 460–380 BC) until the Enlightenment, physicians and philosophers believed that diseases were

caused by disturbances of four basic elements, called "humors": blood, phlegm, yellow bile, and black bile. Each humor was associated with a major organ of the body, as anatomy—influenced by astrology rather than by dissection—was then understood. Blood related to the heart, phlegm to the brain, yellow bile to the liver, and black bile to the spleen. Treatment consisted of methods presumed to restore humoral balance.

Outgrowing old ideas is a gradual process. It is possible, however, to fix two dates that decisively mark the beginning of a new age in the definition, identification, and understanding of *bodily* diseases and of the *physical* elements of which they are composed. In 1858, the German pathologist Rudolf Virchow (1821–1902) published his thesis entitled *Cellular Pathology as Based upon Physiological and Pathological Histology.* For the next century, the standard scientific measure—the "gold standard"—of disease was bodily lesion, objectively identifiable by anatomical, physiological, or other physicochemical observation or measurement. In 1869, the Russian chemist Dimitri Mendeleyev (1834–1907) published his epoch-making paper "The Relation Between the Properties and Atomic Weights of the Elements." This was the first formulation of the Periodic Table of Elements, a scheme that not only provided a precise identification of all known elements, but also identified elements not yet known whose existence Mendeleyev's theory postulated and predicted.

To disease as pathological lesion and to the Periodic Table as a list of physical elements, I suggest that we add here gold as a monetary standard. Why? Because these three systems exemplify ordering our world by precise and objective criteria *independent of human desire, moral judgment, or political power.* Institutions and individuals aspiring to exercise control over our personal lives—church and state, politicians and physicians—have always experienced and continue to experience independence from them as an impertinence, an interference with their "sacred duty" to govern and "serve the public interest." Not surprisingly, the security of fixed monetary and medical standards has been imperiled from the start. From ancient despots to the political leaders of modern democracies, rulers have sought monopolistic control over the monetary system. Modern therapeutic states assume similar monopolistic control over defining diseases and treatments (Szasz 1984, [1970] 1997).

Scientific Standards and the State

Modern societies are profoundly dependent on the hard sciences and the technologies they create and sustain. Hence, modern states—with a few interesting but practically insignificant exceptions, such as Lysenkoism in the Soviet Union and Aryan physics in Nazi Germany—have abstained from using their power to destroy the objective criteria and empirical methods of science. With respect to money and medicine, in contrast, modern Western states have exercised no such restraint. Just the opposite: they have delegitimized and destroyed both the gold monetary standard and gold medical standard. Why? Because these systems exemplify ordering our world by precise and objective criteria *independent of human desire, moral judgment, or political power.* The

things so ordered are integral parts of everyday life; indeed, they are among the most important things in our lives, impinging on religion, law, economics, and politics, yet independent of them.

Under a gold monetary standard, unlike under a fiat paper "legal tender" standard, the state cannot create money by means of printing presses and by defining the product as the only legal form of currency. From the time of the French Revolution until the outbreak of World War I, the gold standard was regarded as an indispensable element of the principle of limited government. The gold standard, perhaps even more than a parliamentary system or federalism and a system of checks and balances, symbolized that the government's powers were not only strictly limited, but that the state respected that limitation.

The difference between the lesion standard of disease and the fiat standard of (mental) disease is similar to the difference between the gold monetary standard and the fiat-paper-money standard. The Virchowian standard is fixed by biological-physical criteria, limiting the medical system from arbitrarily expanding its scope and hence its power. Neither doctors, patients, politicians, nor any other interested parties can *create* diseases *by manipulating the language*. New diseases *cannot be invented; they have to be discovered*. In contrast, the psychopathological standard of disease is flexible, letting medical and political authorities and popular opinion define, ad hoc, what should or should not count as a disease; they do so by *attaching diagnostic labels to unwanted behaviors.*

Between approximately 1850 and 1914, the Virchowian standard of disease and the gold standard of money were widely accepted as indispensable elements of scientific medical practice and sound economic policy, respectively: they provided the social context for the development of medical science and the growth of liberal democracies based on individual liberty, the right to property, and free markets.

The maintenance of scientific standards depends on agreement and authority, whereas the maintenance of moral and legal standards depends on tradition and power. Defining disease (and treatment) has long been the privilege of physicians. Today, it is in large part the privilege of the therapeutic state (Szasz 1984, [2001] 2003). To be sure, people in all walks of life have the "right" to call anything they wish a disease (or a treatment). However, if they act on that premise, they may be breaking the law—for example, the drug laws.

Let us call things by their proper names. *Medical practice* is a government monopoly, not a science. Only persons licensed by the state can call themselves "physicians," and only they are permitted to perform healing acts the state defines as medical practice. In their relations to patients, physicians must follow strict rules and regulations, called "standards of care," and are permitted to prescribe to their patients only substances that the state defines as legal drugs. Deviations from these rules are criminal offenses subject to harsh penalties. I have suggested calling this arrangement "monomedicine" (Szasz 1990, 160). Like monogamy and monotheism, monomedicine is imposed by the state and taken for granted as "naturally right" by the people.

In *Nineteen Eighty-four,* slavery was called "freedom." Today, the state monopoly of medicine is called "private medical practice" and "medical freedom."

Monetary and disease standards affect people's everyday lives more directly and more pervasively than do scientific standards. There is no need here to retell the checkered history of monetary standards based on precious metals.[1] Suffice it to note that the practice of debasing the value of currency by minting coins containing decreased quantities of precious metals and increased quantities of base metals is thousands of years old. Paper money lends itself perfectly to creating monetary value out of an inexpensive product, paper. In his classic *The Economic Consequences of the Peace,* John Maynard Keynes observes: "Lenin was certainly right. There is no subtler, no surer means of overturning the existing basis of society than to debauch the currency. The process engages all the hidden forces of economic law on the side of destruction, and does it in a manner which not one man in a million is able to diagnose" ([1920] 1970, 236).

In *Pharmacracy: Medicine and Politics in America* ([2001] 2003), I showed that long before Virchow formulated a precise pathological standard of disease, that standard was subverted by a *diagnostic* inflation, fueled especially by the needs that the eighteenth-century medical specialty called "mad-doctoring." I say "subverted" because the pioneer nineteenth-century psychiatrists did not create a separate nonpathological standard of disease. On the contrary, they emphasized their professional identity as scientific physicians by adhering to a strict Virchowian lesion standard of disease: they regarded neurology and psychiatry as closely allied medical specialties, viewed themselves as neuropsychiatrists, and attached medical-sounding labels ("diagnoses") to certain unwanted behaviors, exemplified by masturbation and homosexuality. Then, *conflating diagnoses with diseases, they claimed to have discovered new brain diseases* (Szasz 1991). In fact, they did no such thing. Instead, they medicalized human problems traditionally perceived in religious terms, transforming sins and crimes—such as self-murder, self-abuse, and self-medication—into sicknesses.

Is Mental Disease Brain Disease?

Rudolf Virchow did not create the pathological standard of disease out of thin air. His achievement lay in concisely reformulating a concept and a criterion that had been developing for well more than a century. Medical historian Roy Porter states: "This eagerness to ascribe madness to the body was most systematically codified in the teachings of Herman Boerhaave, the highly influential Leiden medical professor" (2004, 308). Boerhaave (1668–1738), a famed Dutch physician, anatomist, botanist, chemist, and humanist, "insisted on the post-mortem examination of patients whereby he demonstrated the relation of symptoms to lesions."[2] Boerhaave, a pioneer

1. **Editor's Note:** For a brief but authoritative account, see Yeager 1996.

2. From the Web site http://www.whonamedit.com.

of scientific medicine, committed himself to the premise that disease is, by definition, a lesion located in the body.

In short, the view that madness is a bodily disease was a postulate or premise, nothing more. It seemed scientific, but had nothing to do with science. Instead, it expressed the "enlightened" revolt against religious explanations of nature and the prevailing humanist-positivist zeitgeist. In this spirit, Pierre Jean Georges Cabanis (1757–1808), a famed French physician and fervent Jacobin, declared: "The brain secretes thought as the liver secretes bile." Dutch physiologist Jakob Moleschott (1822–1893) gave the idea a renal twist: "The brain secretes thought as the kidney secretes urine" ("Cognitive Science" 2004).

It is the doctrinal belief of contemporary biologists, neuroscientists, neurophilosophers, and psychiatrists that mind is brain and vice versa. Daniel C. Dennett, professor of philosophy at Tufts University, declares: "The mind is the brain" (1991, 33). Alan J. Hobson, professor of psychiatry at Harvard, explains: "[T]he brain and mind are one. . . . They are one entity. . . . I use the hyphenated term 'brain-mind' to denote unity" (1994, 6–7). Nobel laureate biologist Christian de Duve writes: "Mind is in the head, sustained by the brain. . . . The two are indissolubly linked, leading to the notion that thoughts, feelings, and all other manifestations of the mind are products of the activities of the brain. The concept is not new. The same was said two centuries ago" (2002, 208). After citing Cabanis and Moleschott, de Duve continues: "How could they be faulted? The proofs are there, indisputable" (209).[3]

Proofs of what? That the mind is secreted by the brain just as bile and urine are secreted by liver and kidney? That claim is patent nonsense. Psychiatrists call manic-depression and schizophrenia, the paradigmatic mental illnesses, "mood disorders" and "thought disorders." Thought and mood, unlike bile or urine, are not material things. Psychiatrists cannot observe them directly. Instead, they infer the subject's "mood disorder" and "thought disorder" from observations of his behavior, especially verbal and social behavior. Samuel H. Barondes, professor and director of the Center for Neurobiology and Psychiatry at the University of California at San Francisco, acknowledges that he does not want to be bound by a materialist definition of (mental) illness. He writes:

> Since the primary concern of this article is mental illness, it is critical that we agree at the outset that such illness does exist. Although this proposition

3. De Duve is a celebrity biologist. His book is a mixture of Catholic apologetics and collectivist-positivist denial of individual responsibility. He approvingly cites the church's approval of evolution: "It has already been mentioned that the Catholic Church, long opposed to the notion of evolution, has recently bowed before the evidence of facts" (2002, 200), as if that endorsement added to Darwinism's explanatory power. And he concludes with conceited lucubrations such as: "Moral responsibilities and ethical concerns likewise have become globalized, in areas such as environmental protection or bioethical safeguards, for example. World organizations and world congresses abound. So it appears that the humankind has become a *supra-organism,* composed of multiple organs kept together by a growing network of integrative communications, directed by a veritable superbrain with the assistance of increasingly powerful computers, subject to the commands of a collective conscience that has acquired a planetary dimension" (268, emphasis in original).

> may seem self-evident, it remains a source of confusion or debate (Szasz, 1961). There is, for example, a reluctance to call someone mentally ill, inasmuch as the border between illness and normality is not well defined. There is also disagreement about whether "normal" means average or ideal. *What is clear, however, is that there are patterns of behavior that are very uncomfortable for a person and for those with whom he or she interacts. And some patterns are so maladaptive that illness is obviously a proper designation.* (1990, 1709, emphasis added)

Behavior is "real," but it is not a material "thing." *Manic-depression and schizophrenia qua mood and thought disorders do not belong in the same table of diseases as hepatitis and uremia qua liver and kidney disorders.* If we use mental-illness terms as the names of brain diseases, as many psychiatrists do, then they belong in a table of diseases with multiple sclerosis and stroke, not in a table with pedophilia and pyromania.

Explaining Behavior: From Sin to Sickness

Healing the body (medicine) and healing the soul (religion) are established social institutions, sanctioned by custom and law. Persons are not *disembodied* objects; they are, literally, *embodied* or *incarnated* beings. *Webster's* defines the verb *to embody* as "to become material" and defines *incarnate* as "to make flesh." When religion reigned, the devil was incarnated in the serpent or in persons called "possessed." Christianity incarnated God in the body of a man called Jesus. When medicine replaced religion as the dominant institution concerned with bodily healing (and left spiritual healing to religion), madness was *reincarnated as bodily disease.* This metamorphosis is displayed clearly in the writings of Benjamin Rush (1746–1813), the "father" of American psychiatry.

In addition to being a signatory to the Declaration of Independence, Rush was a professor of physic and dean of the University of Pennsylvania Medical School, physician general of the Continental army, and the author of the first American textbook of psychiatry, entitled *Medical Inquiries and Observations upon the Diseases of the Mind* ([1812] 1962). Rush was no mere practitioner of medicine. He was a man of the Enlightenment, a physician who fancied himself a scientist. He did not know what ailed the mad persons who were entrusted to his care. As a "scientific" physician, he *assumed* that all his patients—in fact, masses of people who were not his or anyone else's patients—had a bodily disease. In 1774, Rush declared: *"Perhaps hereafter it may be as much the business of a physician as it is now of a divine to reclaim mankind from vice"* ([1774] 1967, 8, emphasis added).

To distinguish himself from the doctor of divinity, the scientific doctor of medicine could not simply claim that he was protecting the patient from sin, or, as Rush put it, "reclaim[ing] him from vice." After all, badness was, and is still, a moral con-

cept. As medical scientist, the physician had to represent badness as madness, and madness as a bona fide medical malady, a disease of the body. He had to demonstrate by his language and his actions that his object of study was not the immaterial soul, but a material object, a *bodily disease*. Rush did just that. In a letter to his friend John Adams, he wrote: "The subjects [mental diseases] have hitherto been enveloped in mystery. I have endeavored to bring them down to the level of all other diseases of the human body, and to show that the mind and the body are moved by the same causes and subject to the same laws" (qtd. in Binger 1966, 281).

Rush did not *discover or prove* that certain behaviors are diseases; he *postulated* and *decreed* that they are: "Lying is a corporeal disease. . . . Suicide is madness" ([1782–1812] 1948, 350). Lamenting the "excess of the passion for liberty inflamed by the successful issue of the [Revolutionary] war," Rush coined a new mental disease: "The extensive influence which these opinions had upon the understandings, passions, and morals of many of the citizens of the United States, constituted a form of insanity, which I shall take the liberty of distinguishing by the name of *anarchia*" (qtd. in Boorstin 1948, 182).

Pathological changes in the body, especially in the nervous system, cause abnormal behaviors. Hence, it is not unreasonable to assume that abnormal behaviors are due to pathological changes in the body. Medical research has lent considerable support to this assumption—for example, in cases where "mental disorders" can be shown to be the consequences of infections, metabolic disorders, or nutritional deficiencies.

However, the criteria for what behaviors count as abnormal are cultural, ethical, religious, social, and legal, not medical or scientific. Hence, it is a priori absurd to try to explain all abnormal behaviors by attributing them to brain diseases. The dilemma thus posed was overcome by creating the concept of psychopathology, a category of illnesses with (metaphorical) "mental lesions." While the late-nineteenth-century pathologists and bacteriologist were busy discovering and describing new somatic pathologies, psychiatrists were busy "discovering" and describing new psychopathologies, each ostensibly a disease of the central nervous system, a somatic pathology.

One of the most important pioneers in the art of manufacturing mental diseases was Baron Richard von Krafft-Ebing (1840–1902), a German-born psychiatrist who was professor of psychiatry successively at the universities of Strasbourg, Graz, and Vienna. The work that made Krafft-Ebing world famous is *Psychopathia Sexualis,* the first edition of which appeared in 1886. Krafft-Ebing was an early practitioner of transforming, with the aid of Latin and a medical diploma, behaviors considered sinful into sicknesses. Psychiatrists authoritatively classified *sexual perversions* as "cerebral neuroses," and lawyers, politicians, and the public eagerly embraced the reality of the new diseases: thus did modern sexology become an integral part of medicine and the new science of psychiatry.

In the preface to the first edition of this work, Krafft-Ebing wrote: "The object of this treatise is merely to record the various *psychopathological manifestations of sexual life in man*. . . . The physician finds, perhaps, a solace in the fact that he may at times

refer those manifestations which offend against our ethical and aesthetical principles to a diseased condition of the mind or the body" ([1886, 1906] 1931, 6–7, emphasis added). I list, without further comment, some of the diseases Krafft-Ebing identified as "cerebral neuroses": "*Anaesthesia* (absence of sexual instinct)... *Hyperaesthesia* (increased desire, satyriasis)... *Paraesthesia* (perversion of the sexual instinct)... *Sadism* (the association of lust and cruelty)... *Masochism* is the counterpart of sadism.... *Fetishism* invests imaginary presentations of separate parts of the body or portions of raiment of the opposite sex... with voluptuous sensations" (52–54).

Sigmund Freud extended Krafft-Ebing's psychopathologizing of personal conduct from sexual behavior to everyday behavior. "There is method in madness," observed Shakespeare. Freud agreed. In his work, perhaps most strikingly in *The Psychopathology of Everyday Life* ([1901] 1953–74), he reformulated Shakespeare's existential-humanistic interpretations of moral conflicts as manifestations of "psychopathology." Although Freud viewed "neuroses" as motivated behaviors, he insisted that they nonetheless were bona fide diseases.

Today, the most self-referential and naive mistaking of a metaphor for the thing metaphorized is regarded as a medical discovery. Alvin Poussaint, professor of psychiatry at Harvard Medical School, declares: "My position is that extreme racism is a serious mental illness because it represents a delusional disorder" (qtd. in "Is Extreme Racism" 2000, 23).

Frank Tallis, a British psychologist who teaches neuroscience at the Institute of Psychiatry at King's College in London and is the author of *Love Sick: Love as a Mental Illness* (2005), explains: "Lovesickness can even be lethal, as when rejection and unrequited love increase the risk of suicide.... Studies suggest that when people fall in love and begin to obsess, it causes a drop in the level of serotonin, a brain chemical.... Medication also might be helpful" (qtd. in Waters 2005).

Other love researchers report: "The [magnetic resonance] scanning shows that love activates specific regions in the reward system of the brain, while reducing activity in the systems involved in making negative judgments.... [T]he most activated parts of the brain were those which respond to oxytocin and vasopressin" (Dobson and Templeton 2005).

Psychiatric explanations of so-called abnormal behaviors ought to alert us to pay more attention to what we regard as an explanation. Does calling transubstantiation a miracle explain it? Does calling pedophilia a mental illness explain it? Perhaps our very concept of explanation, framed in ordinary language, is biased by our deep-seated conceits and fashionable preconceptions. The Hungarian term for explanation suggests that such, indeed, may often be the case.

The Hungarian word for Hungarian is *magyar.* The same term serves as the root for explanation, which is *magyarázat;* to explain is *megmagyaráz;* "inexplicable" is *megmagyarázhatatlan,* literally, "it cannot be said in Hungarian"; and the command to say something clearly is *mond (beszélj) magyarul*—that is, say it in Hungarian. Hungarians are not aware that their term for explanation and hence their concept of

it are so linguistically self-centered. Perhaps one has to change cultures and retain an interest in the idiosyncrasies of one's mother tongue to appreciate such a semantic oddity.

For Hungarians, then, an explanation of anything is "saying it in Hungarian," as if saying it—whatever "it" may be—in another language were incomprehensible, lacking the essential element of explanation. For us today, the explanation of a behavior is saying it in the language of mental illness, brain, dopamine, and drugs. Saying it in plain English is not scientific, not explanatory, not "true."

Conclusion

Medical scientists need a gold standard of disease—a clear, objective demarcation between disease and nondisease. Practicing physicians, patients, politicians, and the public want a fiat standard of disease, unconstrained by objective criteria, a demarcation between disease and nondisease open to change in accordance with fluctuating economic, ideological, and political interests and fashions. As a result, we have, in effect, two tables of diseases: one contains only somatic pathological entities; the other is composed of a mixture containing such entities together with a host of human conditions unrelated to somatic pathology. The two systems are mutually parasitic. Elastic criteria of disease help medical scientists obtain ideological and economic support from government and private industry, but imperil their scientific integrity; physicians, patients, politicians, and the public gain the imprimatur of science for satisfying their economic and existential interests by means of pseudomedical methods, but lose their ability to think clearly about illness and treatment.

The phrase *laissez faire, laissez passer* (let things alone, let them pass) was coined by the eighteenth-century French physiocrats as an injunction against government interference with trade. The first half of the phrase became the slogan of free-market economists. Although the term *laissez faire,* usually hyphenated, is now a part of the English language, its practice—especially in medicine—has become passé. Every modern state is a dirigiste, therapeutic state. Today, medicine is an integral part of the political economy; indeed, it is the single most important part. Modern psychiatry is a branch of the law, family court, and criminal justice system rather than a branch of medicine. Scientific criteria of disease are confined to the pages of journals and textbooks of general pathology and the pathologies of various organ systems—for example, dermatopathology and neuropathology.

Not surprisingly, the modern medical expert, especially if he is also an expert on philosophy and medical ethics, is contemptuous of the gold standard of disease, or indeed of any standard of it. Rejecting the desirability of a boundary between disease and nondisease has become the very hallmark of the contemporary, "progressive" medical philosopher. Germund Hesslow, professor of neuroscience and associate professor of philosophy at Lund University in Sweden, asks, "Do we need a concept of disease?" and answers: "The health/disease question is irrelevant—*we do not really*

have to know whether someone has a disease or not, and consequently we do not need a definition of 'disease'" (1993, 3, emphasis added). That declaration might well serve as the manifesto of pharmacracy and the therapeutic state.

The old quacks peddled fake cures to treat real diseases. The new quacks peddle fake diseases to justify chemical pacification and medical coercion. The old quacks were politically harmless: they could harm individuals only with those individuals' consent. The new quacks are a serious threat to individual liberty and personal responsibility: they are agents of the therapeutic state who can and do harm individuals both with and without those individuals' consent. Theocracy is the alliance of religion with the state. Pharmacracy is the alliance of medicine with the state.

References

Barondes, Samuel H. 1990. The Biological Approach to Psychiatry: History and Prospects. *Journal of Neuroscience* 10 (June): 1707–10.

Binger, Carl. 1966. *Revolutionary Doctor: Benjamin Rush, 1746–1813.* New York: Norton.

Boorstin, Daniel J. 1948. *The Lost World of Thomas Jefferson*. Boston: Beacon Press.

Cognitive Science: From Brain to Mind. 2004. *ScienceWeek*. Available at: http://scienceweek.com/2004/sa040903-4.htm.

De Duve, Christian. 2002. *Life Evolving: Molecules, Mind, and Meaning*. New York: Oxford University Press.

Dennett, Daniel C. 1991. *Consciousness Explained*. Boston: Little, Brown.

Dobson, Roger, and Sarah-Kate Templeton. 2005. Love's Not Only Blind but Mad, Say Scientists. *Sunday Times* (London), February 13. Available at: http://www.timesonline.co.uk/article/0,2087-1481759,00.html.

Freud, Sigmund. [1901] 1953–74. *The Psychopathology of Everyday Life*. In *The Standard Edition of the Complete Psychological Works of Sigmund Freud,* translated by James Strachey, XXX–XX. London: Hogarth Press.

Hesslow, G. 1993. Do We Need a Concept of Disease? *Theoretical Medicine* 14: 1–14.

Hobson, Alan J. 1994. *The Chemistry of Conscious States: How the Brain Changes Its Mind*. Boston: Little, Brown.

Is Extreme Racism a Mental Illness? 2000. *The New Crisis* (January–February): 23–25.

Keynes, John Maynard. [1920] 1970. *The Economic Consequences of the Peace*. Introduction by Robert Lekachman. New York: Penguin.

Krafft-Ebing, Richard. [1886, 1906] 1931. *Psychopathia Sexualis, with Special Reference to the Antipathic Sexual Instinct: A Medico-Forensic Study.* Authorized English adaptation of the twelfth German edition by F. J. Rebman. Rev. ed. Brooklyn, N.Y.: Physicians and Surgeons Book Company.

Porter, Roy. 2004. *Flesh in the Age of Reason: The Modern Foundations of Body and Soul*. New York: Norton.

Rush, Benjamin. [1782–1812] 1948. *Lectures on the Medical Jurisprudence of the Mind*. In *The Autobiography of Benjamin Rush: His "Travels Through Life" Together with His "Common-*

place Book for 1789–1812," edited by G. W. Corner, XXX–XX. Princeton, N.J.: Princeton University Press.

———. [1812] 1962. *Medical Inquiries and Observations upon the Diseases of the Mind*. New York: Macmillan-Hafner Press.

———. [1774] 1967. Letter to Granville Sharp. In J. A. Woods, "The Correspondence of Benjamin Rush and Granville Sharp, 1773–1809." *Journal of American Studies* 1: 8.

Szasz, Thomas. [1961] 1974. *The Myth of Mental Illness: Foundations of a Theory of Personal Conduct*. Rev. ed. New York: HarperCollins.

———. 1984. *The Therapeutic State: Psychiatry in the Mirror of Current Events*. Buffalo, N.Y.: Prometheus Books.

———. 1990. TITLE. PUBLICATION INFORMATION.

———. 1991. Diagnoses Are Not Diseases. *The Lancet* 338 (December 21–28): 1574–76.

———. [1970] 1997. *The Manufacture of Madness: A Comparative Study of the Inquisition and the Mental Health Movement*. Syracuse, N.Y.: Syracuse University Press.

———. [2001] 2003. *Pharmacracy: Medicine and Politics in America*. Syracuse, N.Y.: Syracuse University Press.

Tallis, Frank. 2005. *Love Sick: Love as a Mental Illness*. New York: Thunder's Mouth Press.

Waters, J. 2005. In Love and Madness. *Washington Times,* February 14. Available at: http://www.washingtontimes.com/national/20050214-121803-2322r.htm.

Yeager, Leland B. 1996. From Gold to the Ecu: The International Monetary System in Retrospect. *Independent Review* 1, no. 4 (spring): 75–99.